

## CLAIMS

1. A radiation image pick-up device comprising:  
a plurality of pixels disposed in matrix, each of the  
pixels including at least one photoelectric  
5 conversion element for converting incident radiation  
into electric charges; and a signal output circuit  
for outputting signals from the pixels, the radiation  
image pick-up device being characterized in that:  
a plurality of signal reading wirings through  
10 which the pixel and the signal output circuit are  
connected to each other are provided for each pixel.
2. A radiation image pick-up device according  
to claim 1, characterized in that the photoelectric  
15 conversion element includes a wavelength conversion  
member for performing wavelength conversion on  
incident radiation.
3. A radiation image pick-up device according  
20 to claim 1, characterized in that each of the pixels  
includes semiconductor elements connected to the  
signal reading wirings, and any one of the signal  
reading wirings is freely selectable based on  
actuation of the semiconductor elements.
- 25 4. A radiation image pick-up device according  
to claim 3, characterized in that at least one of the

semiconductor elements is a source follower.

5. A radiation image pick-up device according to claim 1, characterized in that a signal reading  
5 circuit for reading out a signal from the pixel is provided to each of the signal reading wirings.

6. A radiation image pick-up device according to claim 1, characterized in that a signal reading  
10 circuit for reading out a signal from the pixel is provided in common to the signal reading wirings.

7. A radiation image pick-up device according to claim 1, characterized in that the two signal  
15 reading circuits are provided.

8. A radiation image pick-up method comprising:  
using a device which includes: a plurality of  
pixels disposed in matrix, each of the pixels  
20 including at least one photoelectric conversion element for converting incident radiation into electric charges; and a signal output circuit for outputting signals from the pixels, the radiation image pick-up method being characterized in that:  
25 any one of a plurality of signal reading wirings which are provided for each pixel and through which the corresponding pixel and the signal output

circuit are connected to each other is selected in correspondence to a photographing mode to be used.

9. A radiation image pick-up method according  
5 to claim 8, characterized in that the photoelectric conversion element performs wavelength conversion on incident radiation, and converts the conversion results into electric charges.

10 10. A radiation image pick-up method according to claim 8, characterized in that any one of the plurality of signal reading wirings is selected in correspondence to magnitude of a dosage of radiation.

15 11. A radiation image pick-up method according to claim 9, characterized in that each of the pixels includes semiconductor elements connected to the plurality of signal reading wirings, and at least one of the semiconductor elements is a source follower,  
20 and when in case of the photographing mode involving a low dosage of radiation, the signal reading wiring having the source follower is selected.

12. A radiation image pick-up system,  
25 characterized by comprising:  
a radiation image pick-up device as claimed in claim 1;

radiation generation means for applying  
radiation;

selection means for selecting any one of the  
plurality of signal reading wirings in the radiation  
5 image pick-up device in correspondence to magnitude  
of a dosage of radiation; and

control means for controlling the application  
of the radiation by the radiation generation means  
and drive of the radiation image pick-up device based  
10 on the selection by the selection means.

13. A radiation image pick-up system according  
to claim 12, further comprising a photographing  
switch with which any one of the plurality of signal  
15 reading wirings is freely selectable based on an  
input by an operator, the radiation image pick-up  
system being characterized in that the selection  
means selects any one of the signal reading wirings  
based on input made with the photographing switch.

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14. A radiation image pick-up system according  
to claim 13, characterized in that the photographing  
switch is adapted to be switched ON into a plurality  
of strokes corresponding to the number of the signal  
25 reading wirings, and the respective strokes  
correspond to an increase in dosage of radiation in  
ascending order.